

prior art (AAPA). These rejections are respectfully traversed at least for the reasons provided below.

The presently claimed invention recites a stencil printer comprising an ink supply diaphragm pump having, among other features, a diaphragm operable between a first position and a second position permitting fluid flow of ink.

In all the rejections, the Examiner cited Black as a primary reference disclosing a stencil printer having a diaphragm pump (146). Further, the Examiner admitted that Black is deficient in teaching or suggesting that a stress applied to the diaphragm is limited to less than the elastic limit of the diaphragm, then the Examiner cited Atkinson cited by as a secondary reference disclosing limiting deformation of a seal to a stress below the elastic limit, so as to cure the deficiency of Black. However, Applicants respectfully submit that Atkinson teaches a self-compensation seat for a spherical plug valve, and that Atkinson does not teach, disclose, or suggest a diaphragm. Furthermore, Atkinson does not teach, disclose, or suggest that a stress applied is limited to less than 75% of the elastic limit of the diaphragm.

As clearly shown, Atkinson does teach, in col. 4, lines 55-65, a seal rings 72 and 74 onto which a ball valve member sits. The seal rings are annular and provide a sealing means for the valve ball to prevent fluid leakage, as the ball is seated on the rings and compresses them. The Examiner is respectfully directed to Figs. 2 and 4, and col. 7, lines 57-62, which further clearly shows the seal rings and their function.

Applicants respectfully submit that the diaphragm of the presently claimed invention is completely different in structure and function than the seal rings 72 and 74 of Atkinson. Hence, the application of the diaphragm of the presently claimed invention is completely different from that of Atkinson. Moreover, although Atkinson teaches the ring as being deformable and resilient, there is no suggestion or disclosure in Atkinson that would lead one to arrive at the limitation of 75% or less for the stress applied to the seal rings. Applicants respectfully assert that such a precise limitation would not be necessary for the seal rings of Atkinson. Hence, it cannot be obvious to combine the annular seal rings of Atkinson with the diaphragm pump of

Black to arrive at Applicants' diaphragm, wherein a stress applied to it is limited to a stress that is less than 75% of the elastic limit of the diaphragm, as asserted by the Examiner.

According to MPEP §2143.01, the prior art must suggest the desirability of the claimed invention. Applicants respectfully request the Examiner to provide concrete support in Atkinson, as well as Black, for Applicants' claimed diaphragm, wherein a stress applied to it is limited to a stress that is less than 75% of the elastic limit of the diaphragm, as recited in claims 7 and 8.

Routine experimentation is not sufficient for providing the required motivation for a obviousness rejection. Nothing in the prior art cited in the Office Action would suggest the necessity or desirability of combining the annular seal rings without a specific the maximum elastic limitation of Atkinson with a diaphragm in a pump of Black to arrive at Applicants' claimed invention..

Moreover, both the suggestion of the invention and the expectation of success must be found in the prior art, not in Applicants disclosure. Selective hindsight is not appropriate to design experiments in order to reach the claimed invention. In re Dow Chemical, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988). In view of the above Applicant respectfully submits that a *prima facie* showing of obviousness has not been made in the rejection of independent claims 7 and 8.

As Black and Atkinson are applied in the §103(a) rejection of claims 2-5 and 7-8, Applicants respectfully request that the §103(a) rejection of these claims be reconsidered and withdrawn for the reason set forth above in relation to the rejection of independent claim 8.

With respect to the rejection of claims 5 and 7, wherein Kawahata is applied as a secondary reference, as discussed above, Black and Atkinson are deficient. Therefore, Kawahata, which was cited for disclosing an UV ray curing ink, cannot be combined with Black and Atkinson without providing a cure for the above-discussed deficiency.

With respect to Miller in the rejection of claim 6, the Examiner asserts that Miller teaches a diaphragm pump which is made of silicon rubber, and that silicon rubber is known to have a swelling ratio to the ink of less than 1.05, therefore it would be obvious to combine Black, Miller, and AAPA to arrive at Applicants' claim 6. However, as submitted in the Amendment

of February 27, 2001, Applicants respectfully submit again that not only is Miller non-analogous art, but Miller also fails to teach, suggest or disclose ink, let alone a swelling ratio to the ink not larger than 1.05 as recited in claim 6. In contrast with the present invention of claim 6, Miller is directed toward an intimal lining pump with vertically drafted webs for a circulator assist device. Specifically, the pump of Miller is connected to a human arterial **blood supply** (see Abstract) and not ink. Therefore, Miller cannot possibly teach suggest Applicants' claimed swelling ratio.

"In order to rely on a reference for the basis of rejection of an Applicant's invention, the reference must either be in the field of Applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1433, 1446, 24 USPQ 2d 1443, 1445 (Fed. Cir. 1992). Applicants respectfully submit that since Miller is used in connection with pumping blood, Miller is not pertinent to the particular problem solved by Applicants' invention.

Further, the Examiner is reminded of the requirements set forth in MPEP §2143.01 cited above. Miller does not suggest the desirability of the claimed invention recited in claim 6.

Accordingly, Applicants respectfully submit that Miller, either alone or in combination with Black and AAPA, fails to teach, suggest or disclose the swelling ratio to ink as claimed. Accordingly, withdrawal of the rejection of claim 6 under 35 U.S.C. §103(a) is respectfully requested.

In view of the arguments set forth above, Applicants respectfully request reconsideration and withdrawal of all the pending rejections.

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Having responded to the rejection set forth in the outstanding Office Action, it is submitted that claims 2-8 are now in condition for allowance. An early and favorable Notice of Allowance is respectfully solicited. In the event that the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, the Examiner is courteously requested to contact Applicants' undersigned representative.

Respectfully submitted,

NIXON PEABODY LLP

A handwritten signature in black ink, appearing to read "Donald R. Studebaker", is written over a horizontal line.

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